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## **Response of AES Puerto Rico LP to EPA's September 16, 2014 Water Compliance Inspection Report**

AES Puerto Rico LP ("AESPR") hereby submits this response to EPA's September 16, 2014 Water Compliance Inspection Report ("Inspection Report"). For ease of reference, AESPR will follow EPA's Findings of the Facility Walkthrough.

### **7. Findings of EPA Facility Walkthrough.**

EPA organized its finding's by reference to parts of the Multi-Sector General Permit ("MSGP"). AESPR will respond to each in turn:

#### **a. MSGP Part 2.1.2.1: Minimize Exposure –**

Minimize the exposure of material storage areas (loading and unloading, and storage) to rain and runoff by either locating these industrial materials and activities inside or protecting them with storm-resistant coverings.

EPA Finding: One of the warehouses in plant yards was undergoing cleaning. AES was storing equipment and materials exposed to precipitation without storm resisting coverings. (See EPA Picture 19)

AESPR Response: AESPR disputes the alleged violation as the exposed equipment and materials did not contain any uncovered cleaning materials or similar materials that would pose a risk if added to storm water. The items identified in EPA's Inspection Report were covered with storm-resistant coverings and then returned to storage as soon as the warehouse cleaning work was completed. (ASEPR After Picture 19). In addition, AESPR has implemented the following measures:

- Revised the Storm Water Pollution Prevention Plan (SWPPP) to include specific provisions in the Exposure Minimization section to address material storage. *See* SWPPP at page 13
- Provide and document training to all employees and required contractors about these exposure minimization requirements.
- During the Routine Facility Inspection, *see* SWPPP at page 22\_\_, all site areas will be inspected for material and equipment that are exposed and may require cover, *see* SWPPP at Worksheet #5 .
- Have available at the plant storm-resistant covering in case equipment or materials may be exposed to a storm event.

EPA Picture 19



AESPR After (Picture 19)



**b. MSGP Part 2.1.2.2: Good Housekeeping** – Keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals.

EPA Finding b.(1): The storm water concrete swale located on the west area of the Site (near the electrical grid) was observed with sediment and gravel accumulation and lacking good housekeeping. (EPA Picture 9).

AESPR Response to EPA Finding b.(1): AESPR addressed the housekeeping in the noted area by removing the limited gravel in the swale. (AESPR After Picture 9). AESPR disputes this was a violation. Moreover, the gravel present alongside the swale (AESPR Picture 9) does not represent poor housekeeping, but is situated there to provide truck access to the opposite side of the channel. Nevertheless, to address the EPA's concern, each concrete swale was assigned an AESPR "area owner" who is responsible to inspect, maintain and clean the swale at least once per month or before an expected storm. AESPR has also revised the SWPPP to include a Storm Water Maintenance Matrix. *See* SWPPP at Appendix 1. The Matrix specifies the area owner, describes the specific areas covered and the required tasks, and identifies frequency for each task. These areas will also be inspected during the quarterly Routine Facility Inspection.

EPA Picture 9



AESPR After Picture 9



EPA Finding b.(2): The storm water concrete culvert located beneath the fly ash loading area was found with debris, sediment, and ash, and lacked maintenance. (EPA Picture 10).

AESPR Response to EPA Finding b.(2). EPA addressed the specific area identified in EPA's Inspection Report. (AESPR After Picture 10). In addition, the SWPPP was revised to include concrete culverts and swales in the Housekeeping Section, with all concrete culvert sections now specifically included the facility's Storm Water Maintenance Matrix to assure regular housekeeping. SWPPP at Appendix 1. Further, these culverts will now be inspected during the Quarterly Routine Facility Inspection.

EPA Picture 10



AESPR After Picture 10



**c. MSGP Part 2.1.2.3 – Maintenance:** - Regularly maintain and repair systems to avoid situations that may result in releases of pollutants in storm water discharged to receiving waters. Maintain all control measures that are used to achieve the effluent limits in effective operating condition.

EPA Finding c.(1): EPA observed crushed stone construction residues inside a containment area (CDS/ESP) reducing capacity. (EPA Picture 11).

AESPR Response to EPA Finding c. (1): All crushed stone construction residues were removed and a concrete slab was constructed inside the CDS/ESP containment area. (AESPR After Picture 11). These containment areas are equipped with process water drains to avoid any contaminated water from reaching the storm water conveyance system. The process water drains flow to the oil and water separator in the cooling tower make up water pond.



EPA Picture 11



AESPR After (Picture 11)



EPA Finding c.(2): The concrete swale along the Agremax™ pile and coal piles areas were observed with gravel, dust, Agremax™, and coal, and lacked housekeeping. (EPA Pictures 12-14). (Picture 14 showed a PVC pipe that the Report asserted was an illegal connection carrying process wastewater into the Storm Water Runoff Pond.)

AESPR Response to EPA Finding c.(2): AESPR disputes the assertion that Agremax was present in the observed areas. However, the materials observed during the Inspection were addressed. The observed PVC piping has been capped (EPA Picture 13, AESPR After Picture 13) (EPA Picture 14, AESPR After Picture 14). Further, to address the EPA's concern, all concrete swales along the Agremax and coal pile areas were assigned an AESPR staff owner responsible for proper housekeeping of the area and to maintain and clean it at least once per month or before an expected storm. AESPR also revised its SWPPP to include a Storm Water Maintenance Matrix to specify the area owner, describe the specific area to be addressed, and identify the frequency for each task. Each of these areas is also included in the Quarterly Routine Facility Inspection to better ensure continuous compliance with this responsibility.

EPA Picture 12



EPA Picture 13



EPA Picture 14



AESPR After (Picture 12)



AESPR After (Picture 13)



AESPR After (Picture 14)



EPA Finding c.(3): AES was in the process of emptying the Coal Pile Pond for cleaning and repair, which is a required maintenance activity to eliminate overflow discharges of storm water and process wastewater into wetlands through outfall 003: AES has failed to complete this task since it was found during the July 2011 CEI. (EPA Pictures 15-16).

AESPR Response to EPA Finding c.(3): As AESPR has documented previously for EPA, the company was delayed due to problems beyond its control with its contractor,

one of only a few located in Puerto Rico that the company believed had the experience and capabilities to perform this job. Regardless, the Coal Pile Runoff Pond cleaning was finished on December 31, 2014. This activity was an extensive undertaking that included the following:

- Removal of all water then contained in the pond.
- Removal of all sediment from the pond. The sediment was composed of ash and coal residue and was stored at the inactive coal pile for boiler consumption in combination with coal.
- Removal and disposal of the damaged liner sections.
- Soil preparation where the liner was removed.
- Installation of new liner sections.
- Pin holes repair and sediment traps cleaning.

EPA Picture 15



EPA Picture 16



AESPR After (Picture 15)





AESPR After Picture 16



**d. MSGP Part 2.1.2.5 - Erosion and Sediment Controls** – Stabilize exposed areas and contain runoff using structural and/or non-structural BMPs to minimize on-site erosion and sedimentation, and the resulting discharge of pollutants. Place flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion and/or settle out pollutants.

EPA Finding d.(1): There was exposed soil without adequate stabilization within the southeast corner of the Site, near the concrete culvert that discharges through outfall 002. (EPA Picture 17).

AESPR Response to Finding d.(1): The area identified in the Inspection Report (in the southeast corner of the Site, near the concrete culvert that discharges through outfall 002) was seeded to improve vegetation growth (AESPR Picture 17). In addition, the maintenance of this area is included in the landscaping maintenance contract.

EPA Picture 17



AESPR After (Picture 17)



EPA Finding d. (2): The dirt road that borders the south boundary of the Site was found without adequate soil stabilization. Traffic on this road was causing excessive fugitive dust emission into the air and adjacent wetlands fallout. (EPA Picture 18).

AESPR Response to Finding (2): AESPR disputes that the dirt road was not stabilized sufficiently or was causing excessive fugitive dust into the air or adjacent wetlands. However, the dirt road identified in the Inspection Report has been further stabilized with gravel. (AESPR After Picture 18). In fact, AESPR has enhanced the stabilization of site unpaved roads and unpaved areas with a gravel application. Further, an area owner among AESPR staff has been who is responsible for ensuring these areas are well-maintained and continue to be stabilized properly, as reflected in the Storm Water Maintenance Matrix, which is part of the SWPPP. In addition, during the quarterly Routine Facility Inspection, AESPR will inspect the roads to assess and identify any locations where maintenance is required.

EPA Picture 18



AESPR After Picture 18



EPA Finding d.(3): Several plant yards were observed with inadequate soil stabilization. For example, the yards between the cooling tower and maintenance shop building were found in such condition. (EPA Picture 19).

AESPR Response to EPA Finding d.(3): AESPR disputes that the plant yards lacked adequate stabilization. However, the yards between the cooling tower and maintenance shop building identified in the Inspection Report are now further stabilized with gravel (AESPR After Picture 19). In addition, as noted AESPR has stabilized all site unpaved roads and unpaved areas with a gravel cover. Further, an area owner among AESPR staff have been designated as responsible for ensuring these areas are well-maintained and continue to be stabilized properly, as reflected in the Storm Water Maintenance Matrix, which is part of the SWPPP. In addition, during the quarterly Routine Facility Inspection, AESPR will inspect the roads to assess and identify any locations where maintenance is required.

EPA Picture 19



AESPR After Picture 19



EPA Finding d.(4): Slope stabilization and storm water management are not provided in the Agremax storage pile and in some slopes of the coal storage piles. (EPA Pictures 20-25).

AESPR Response to EPA Finding d.(4): AESPR disputes that stormwater management has not been provided for the inventory of Agremax stored at the AESPR property or at the coal storage pile. The facility has implemented an extensive stormwater management program to collect and route all stormwater run-off to the coal storage runoff pond. The Agremax pile and the coal pile are considered active. Their area, volume and form change over time make it difficult to establish a permanent slope. However, AESPR has taken and is taking steps to address the EPA's concerns about the controls surrounding the Agremax inventory, to reduce run-off and if there is run-off, to collect and route run-off to the coal storage run-off pond.

EPA Picture 20



EPA Picture 21





EPA Picture 22



EPA Picture 23



EPA Picture 24



EPA Picture 25



AESPR After (Picture 20)



AESPR After (Picture 21)



AESPR After (Picture 22)



AESPR After (Picture 23)



AESPR After (Picture 24)



AESPR After (Picture 25)



**e. MSGP Part 2.1.2.6 - Management of Runoff:** Divert, infiltrate, reuse, contain, or otherwise reduce stormwater runoff, to minimize pollutants in the discharges.

EPA Finding d. (1): Certain storm water inlets did not have inlet protection. (EPA Picture 26).

AESPR Response to Finding e. (1): The drain identified in the Inspection Report is located near the administrative building, not in the process area. All inlet catch basin drains within process areas are protected with drain guards. (For example, AESPR After Picture 26). The drain guards are inspected and replaced frequently as required by the Storm Water Maintenance Matrix, which, as noted, is incorporated into the facility SWPPP. An area owner who is responsible for inspecting and replacing drain guards as needed has been assigned. The drains are also inspected Quarterly as part of the Routine Facility Inspection .

EPA Picture 26





AESPR After (Picture 26)



EPA Finding e. (2): One (1) corner of the concrete low wall secondary containment located near the diesel unloading area was broken. (Picture 27).

AESPR Response to EPA Finding e.(2): The broken corner of the low wall at the secondary containment located at the diesel unloading areas was repaired. (AESPR After Picture 27).

EPA Picture 27



AESPR After (Picture 27)



EPA Finding e.(3): AES has not replaced and/or installed silt fence at the perimeter of the coal storage piles and coal handling areas. (Picture 27).

AESPR Response to EPA Finding e.(3): AESPR disputes that the silt fence was not sufficient to manage the coal storage piles and coal handling areas, as the silt fence was in

very good condition in significant areas surrounding the perimeter of the coal storage piles and the coal handling areas. To address EPA's concerns, AESPR has replaced the silt fence in locations along the inactive coal pile. In addition, the requirement to inspect and if necessary repair or replace sections of the silt fence has been included in the Storm Water Maintenance Matrix, which is part of the facility SWPPP. As such, an area owner has been assigned who is responsible to maintain this BMP. Moreover, this area is also inspected as part of the Routine Facility Inspection to evaluate this BMP and ensure corrective measures are taken, if necessary.

EPA Picture 27



EPA Picture 28



AESPR After Picture 27



After 28



**f. MSGP Part 2.1.2.12 - Dust Generation and Vehicle Tracking of Industrial Materials –**  
Minimize generation of dust and off-site tracking of raw, final, or waste materials.

EPA Finding f. (1): See Picture 25 above for example of coal off-site tracking

AESPR Response to EPA Finding f.(1): AESPR disputes that the facility is not complying with the cited provision of the MSGP. To the extent that there is dust from the active coal pile that is found in stormwater, that stormwater is being collected and routed to the stormwater and coal pile runoff ponds. As a result, there are no discharge or stormwater compliance issues here. That said, AESPR has taken steps to address the EPA's concern, including improved overall housekeeping, inspections, and if necessary, additional measures. This will be achieved through its compliance matrix, assigned inspections, Quarterly Routine Facility Inspection, and SWPPP implementation.

EPA Finding f. (4): Off-site tracking of what appears to be Aggremax™ fine particles was observed at the wetlands (outfall 002). Picture 29 depicts this finding.

AESPR Response to EPA Finding f.(4) – AESPR disputes the assertion that Agremax particles were present at the wetlands or that Picture 29 depicted the presence of such particles. It is AESPR's view that what was observed was dirt.

Picture 29



After (Picture 29)



**g. MSGP Part 8.0.4.1 - Fugitive Dust Emissions** - Minimize fugitive dust emissions from coal handling areas, (which EPA's Inspection Report defines to include the Agremax™ storage pile, limestone storage dome and supporting areas such as roads. By installing specially designed tires or washing vehicles in a designated area before they leave the site, and controlling the washwaters.

EPA Finding g.(1): The EPA Inspectors observed one (1) water tank-mounted truck in operation. Given the amount of area to be covered at the Site, which is located in a semi-arid area of Puerto Rico, one (1) truck isn't sufficient to control dust in the areas in which dust control is required.

AESPR Response to EPA Finding g.(1): AESPR disputes that an additional truck was or is needed to address the site, particularly now that there is a system of nine sprinklers to cover the Agremax pile. One water truck is more than adequate to cover the remainder of the facility.

EPA Finding g.(2): Fugitive emissions were observed during the entire Inspection's walkthrough, especially in areas in which ashes are handled.

AESPR Response to EPA Finding g.(2): AESPR disputes that fugitive emissions are an issue at the plant generally or specifically in areas in which coal ash is handled. The ash is directed to silos and then directed for use or manufactured into Agremax. In addition,



the management of the Agremax inventory has been improved through the addition of eight additional sprinklers and related equipment to facilitate coverage over the inventory.

EPA Finding g.(3): AES lacks an adequate and effective dust control system for the Agremax storage pile. Although hoses were feeding water to several sprinklers located on the top side areas of the slopes, most of the slopes were dry and emitting fugitive dust caused by wind. (EPA Picture 30).

AESPR Response to EPA Finding g.(3): AESPR disputes that it lacked an adequate or effective dust control system for its Agremax inventory. However, in response to EPA, AESPR has completed a significant capital project which includes the installation of a new pump with substantially greater capacity to provide water, a new HPVC distribution header pipe, and eight (8) new sprinkler connections (for a total of nine sprinklers). This upgraded system will enhance water sprinkler distribution to provide improved dust control coverage at the Agremax inventory.

EPA Picture 30



AESPR After (Picture 30)



**h. MSGP Part 8.0.4.11: Ash Loading Areas** - Reduce or control the tracking of ash and residue from ash loading areas. Clear the ash building floor and immediately adjacent roadways of spillage, debris, and excess water before the departure of each loaded vehicle.

EPA Finding h.(1): Certain slope bottoms of the Agremax™ storage pile were observed on top of the gabion BMP structure, precluding this designed BMP (and its attached silt fence) from functioning. EPA also observed AESPR personnel using mechanical equipment to remove Agremax™ away from the gabions to allow space for the required buffer area. (Pictures 31-32).

AESPR Response to EPA Finding h.(1): AESPR disputes that the presence of observed Agremax precluded the function of this BMP. However, AESPR has addressed the slope bottoms observed on the BMP structure. (AESPR After Pictures 31-32). A buffer zone (of up to 10 feet) has been established between the Agremax storage pile and the gabions wall in order to ensure the storm water filtering system in this BMP is able to function fully. As the pile is actively being used, the slope bottoms will adjust, but the buffer zone will be maintained through routine inspections. The need for the buffer zone is now included in the Storm Water Maintenance Matrix and an area owner has been assigned to inspect and maintain this requirement. The presence of a buffer zone will also be inspected during the Quarterly Routine Facility Inspection.

EPA Picture 31



EPA Picture 32



AESPR After (Picture 31)



AESPR After (Picture 32)



EPA Finding h.(2) AES installed a dust control system in the fly ash loading area to minimize dust emissions.

AESPR Response to EPA Finding h. (2) – AESPR disputes there were any previous issues with dust emissions, but agrees that this system has been installed.

**i. MSGP Part 8.0.4012 - Areas Adjacent to Disposal Ponds** – Minimize contamination of surface runoff from areas adjacent to disposal ponds. Reduce ash residue that may be tracked on to access roads traveled by residue handling vehicles, and reduce ash residue on exit roads leading into and out of residue handling areas.

EPA Finding i.(1): AES constructed a structural BMP between the Agremax™ storage pile and the limestone storage dome to reduce tracking of sediments into roads at the plant. EPA found the construction of the structural BMP was adequate but the exit path to the road lack soil stabilization control. (EPA Picture 33).

AESPR Response to EPA Finding i.(1): AESPR disputes that the exit path lacked sufficient stabilization. However, to address EPA's observation, the exit path of the



wheel washer BMP was further stabilized with gravel. (AESPR After Picture 33). In addition, the area is on the Storm Water Maintenance Matrix and will be maintained by assigned plant staff.

EPA Picture 33



AESPR After (Picture 33)



EPA Finding i.(2): The plant yards behind the south side of the limestone storage dome were observed without soil stabilization. Also, the process wastewater basin located in this area was not constructed following best engineering practices to allow for adequate sedimentation and slope stabilization. (EPA Pictures 34-35).

AESPR Response to EPA Finding i.(2): AESPR disputes the plant yards behind the south side of storage dome lacked sufficient soil stabilization. However, all site unpaved roads and unpaved areas have been stabilized further with a gravel cover. (AESPR After Picture 34). Further, AESPR disputes that there is any current compliance issue with the wastewater basin warranting further action by AESPR, as the basin is sufficient to manage storm water as needed at this area of the facility; the original design foresaw that any water collected in this area would transferred to the coal pile water run off collection pond, which is and has been occurring. In addition, an area owner has been assigned to maintain these areas to ensure they continue to be properly stabilized. This is included in the Storm Water Maintenance Matrix which is part of the SWPPP. Further, these areas will be inspected as part of the Quarterly Routine Facility Inspections.



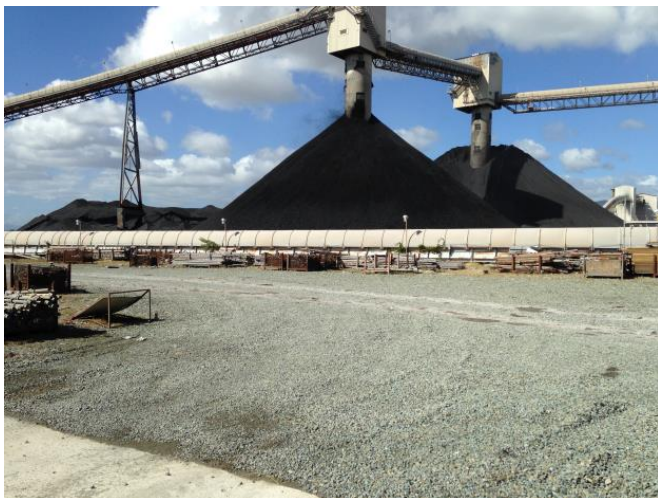
EPA Picture 34



Picture 35



AESPR After (Picture 34)



AESPR After (Picture 35)



#### **j. Other EPA Findings**

EPA Finding j.(1): AES installed two V-notch weirs to provide for a free and unobstructed flow when sampling the storm water discharges associated with industrial activity through outfalls 002 and 003. AES also installed two solar-powered automatic samplers for sampling points 002 and 003. However, the tip of the samplers tubing was observed touching the surface; and therefore, the sample tubing were not installed properly. Also, the bottom of the V-notch weir crests was touching the surface. (EPA Pictures 36-37).

AESPR Response to EPA Finding j.(1): Outfall 002 has been reconstructed. (AESPR After Picture 36). The tip of the samplers tubing's from SP-002 and SP-003 was modified to avoid contact with the channel inlet. The bottom of the v-notch weirs have been re-installed above the channel inlet. (AESPR After Picture 37).

EPA Picture 36



EPA Picture 37



After (Picture 36)



AESPR After Picture 37





EPA Finding j.(2): EPA observed vegetation growth and lack of maintenance along the concrete channel that discharges through Outfall 003. This is causing backflow and algae growth. (EPA Pictures 38-39).

AESPR Response to EPA Finding j (2): AESPR disputes that the channel was not reasonably maintained, given its location and the Puerto Rico climate. Regardless, the observed vegetation was removed and additional maintenance has been conducted along the concrete channel that discharges through Outfall 003. In addition, this area is covered by the Storm Water Maintenance Matrix, which is part of the facility SWPPP, and the Quarterly Routine Facility Inspections.

EPA Picture 38



EPA Picture 39



AESPR After Picture 38





AESPR After Picture 39



AESPR After Picture 39



EPA Finding j.(3): EPA found AES did not comply with Part 3.2 (Conditions Requiring Review to Determine if Modifications Are Necessary) and Part 6.2.1.2 (Benchmark Monitoring Schedule) of the MSGP, which requires AES to review the selection, design, installation, and implementation of control measures to determine if modifications are necessary to meet the effluent limits in the MSGP.

According to EPA, the basis for this findings is that the average of all monitoring data for SP-001, SP-002, and SP-003 exceeded the applicable benchmarks for aluminum and iron, and AES did not conduct/document the required selection, design, installation, and implementation of control measures to determine if modifications are necessary to meet the effluent limits in the MSGP. These modifications are beyond the non-structural and structural BMPs that AES selected and EPA approved in the May 5, 2013 letter.

AESPR Response to EPA Finding j.(3): AESPR disputes that the company is not in compliance with Parts 3.2 and 6.2.1.2 of the MSGP. AESPR has been operating under an ACO with EPA to implement literally dozens of new structural and non-structural BMPs at its facility since December 2011. The facility has invested over \$3.5 million to implement the requirements, some of which were time consuming to design, construct and implement and were not completed until this past year. Beginning in 2013 the facility began to show consistent data below the benchmarks, and as the chart below shows, focusing on 2014, the results are substantially below the applicable benchmarks,

particularly during the last two quarters when all outfalls were sampled (Q2, Q3 of 2014) and the maximum number of BMPs were in place. Specifically:

- Outfall 001: Lead (Q2, Q3, Q4), Aluminum (Q3, Q4), Iron (Q3, Q4) and Zinc (Q3, Q4)
- Outfall 002: Lead (Q2, Q3, Q4), Aluminum (Q2, Q3), Iron (Q2, Q3) and Zinc (Q2, Q3, Q4)
- Outfall 003: Lead (Q2, Q3), Aluminum (Q2, Q3), Iron (Q2, Q3) and Zinc (Q2, Q3)

A more sensible approach would be to allow the full set of BMPs to be in place for at least an additional two to three quarters of data gathering before initiating an additional assessment as to whether further modifications are necessary.